

# Hardware and Software for Determining the Thermal Properties of Rocks Under Close to Stratified Conditions

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## Abstract

An instrument for determining the nonlinear thermal properties of rocks under natural conditions is proposed. Software is developed for processing the temperature readings, obtained from the instrument sensors, using mainly the theory of the solution of inverse problems for a parabolic-type nonlinear equation. Practical examples of the determination of the nonlinear thermal properties of some materials are presented. © 2014 Springer Science+Business Media New York.

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## Keywords

heat capacity, inverse boundary value problem, nonlinear thermal conductivity, rocks, thermal properties